

Time Perspective and Uncertainty Tolerance of Interns with Different Levels of Self-Efficacy

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Submitted: 05 August 2024 Accepted: 12 August 2024 Published: 19 August 2024

doi <https://doi.org/10.63620/MKJPNR.2024.1045>

Citation: Lukin, A. A., Petuhova, N. A., Kupreev, P. P., & Gorsikh, I. I. (2024). Time Perspective and Uncertainty Tolerance of Interns with Different Levels of Self-Efficacy. *J of Psych and Neuroche Res.* 2(4), 01-05.

Abstract

Background: The study examined the relationship between the level of self-efficacy, tolerance to uncertainty, components of the emotional burnout syndrome and features of time perspective of interns in the specialty "Traumatology and orthopedics". The sample consisted of 20 intern physicians studying in the specialty "Traumatology and Orthopedics". The specialists were found through the global Internet. The physicians were divided into 3 groups according to the established level of self-efficacy: with high self-efficacy ($n=9$), with medium self-efficacy ($n=7$), with low self-efficacy ($n=4$).

Methods: Methods of systematic search and meta-analysis of scientific literature data, sociological method was used in the study. Questionnaires were used to study psychological traits; its results were analyzed using methods of statistical data processing.

Results: According to the results of the pilot study we can talk about a significant difference in psychological characteristics among interns with different levels of self-efficacy. Thus, in the sphere of social contacts, interns with a high level of self-efficacy are characterized by stability and tolerance in communication, they are characterized by a higher level of tolerance to uncertainty and less pronounced fatalism, sense of doom.

Conclusions: The program of medical personnel training should include psychological trainings that promote the development of emotional self-regulation skills and form the resistance to emotional burnout. It is important that future doctors develop not only clinical skills, but also personal resources.

Background

According to the World Health Organization (WHO) report "A Universal Truth: No health without a workforce", the current shortage of health workers is estimated at about 7.2 million. By 2035, health systems are projected to be short of 12.9 million professionals [1]. In addition, some studies have noted an increase in mental disorders (SED, anxiety, depression) among medical university students, medical interns, and young practicing physicians [2, 3]. The shortage of personnel and the specificity of the mental state of young physicians create the need to study the psychological aspects that influence the formation of professional identity of physicians, as well as the study of those factors that may hinder the development of specialists.

In order to complement the directions of psychological studies of interns of different medical directions, in the presented pilot study we investigated the relationship between the level of self-efficacy, tolerance to uncertainty, the expression of components of the emotional burnout syndrome and the peculiarities of constructing a time perspective in interns studying in the direction of "Traumatology and Orthopedics". These psychological characteristics were chosen as integral factors in the formation of clinical thinking of the future physician, capable of coping with ambiguity and uncertainty of medical situations, as well as with the frequent feeling of unskilledness in their professional sphere and fear of failure in it [4-7].

Methods

The methods of systematic search and meta-analysis of scientific

literature data, sociological method, as well as statistical data processing were used in the study. The main technique used to investigate the level of interns' self-efficacy in a sociological study was the survey method of M. Scherer, J. Maddux (Self-Efficacy Scale) in the adaptation of A.V. Boyarintseva, R.L. Krichevsky. To diagnose the peculiarities of time perspective construction, we used the questionnaire method P. Zimbardo, A. Gon. Zimbardo, A. Gonzalez (Zimbardo Time Perspective Inventory, ZTPI) in the adaptation of E.T. Sokolov, O.V. Mitina. The main technique used to diagnose the emotional burnout syndrome of interns was the questionnaire method of Maslach K., Jackson S. (Maslach Burnout Inventory, MBI) in the adaptation of Vodopyanova N.E. To diagnose the expression of tolerance to uncertainty, the method of T.V. Kornilova "New questionnaire of tolerance to uncertainty, NTN" was used;

Scientific literature was searched in the main databases: eLibrary.ru, Disserscat, MEDLINE/PubMed, Cochrane and Google Scholar. Data processing and statistical analysis were performed using the programs SPSS Statistics v. 26 (Chicago, IL) and MetaXL

(version 5.3), an extension for Microsoft Excel 2016 program. When describing the results, the calculated values of statistical criteria were accepted as statistically significant at $p < 0.05$.

The objects of the study were 20 intern physicians studying in the direction of "Traumatology and Orthopedics". According to the results of the study of self-efficacy levels, divided into 3 groups: with high self-efficacy ($n=9$) with average self-efficacy ($n=7$) with low self-efficacy ($n=4$).

Results

Time perspective

The results of the Zimbardo Time Perspective Questionnaire (ZTPI) were processed using the Mann-Whitney U-criterion and the Kraskell-Wallis criterion, which revealed statistically significant differences on the factor "Present-fatalistic" between groups with medium and high self-efficacy ($p=0.016$) and between groups with low and high self-efficacy ($p=0.03$); interns with high self-efficacy have lower scores on the factor of perception of the fatalistic present. (Figure 1).

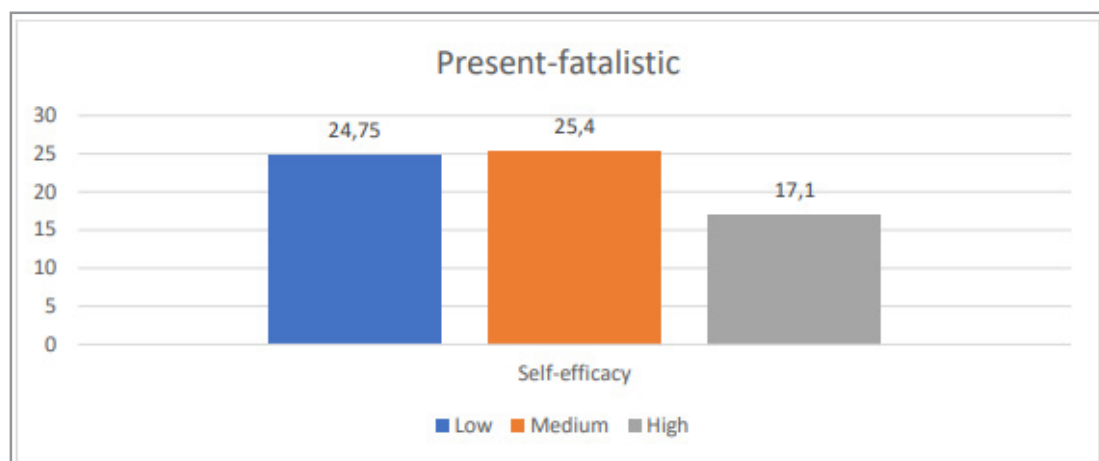


Figure 1: Expression of the factor "Present-fatalistic" in interns with different degrees of self-efficacy (Mean values)

There were also statistically significant differences on the Past-positive Perception factor between groups with medium and high self-efficacy ($p=0.015$) and differences at the level of

statistical trend between groups with low and high self-efficacy ($p=0.096$): interns with high self-efficacy had higher scores on the Past-positive Perception factor (Figure 2).

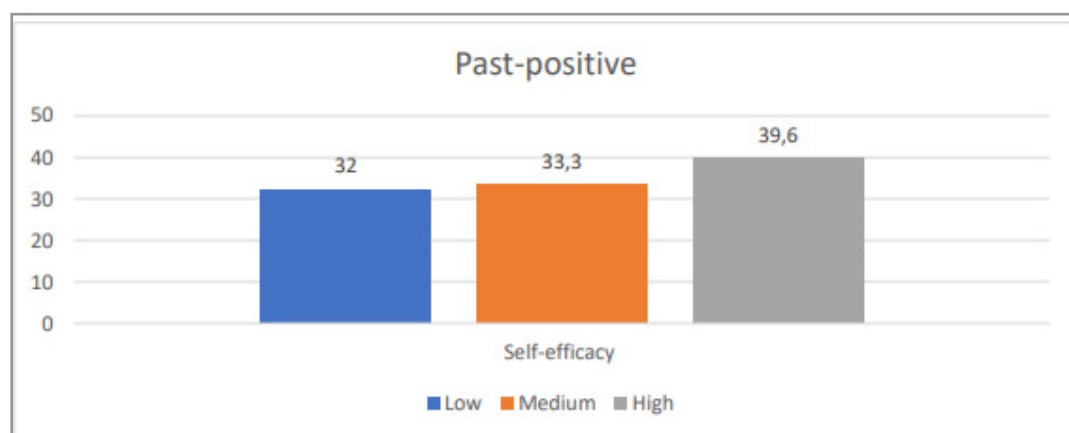


Figure 2: Expression of the factor "Past-positive" in interns with different degrees of self-efficacy (Mean values)

Tolerance for Uncertainty

In the course of processing the results of the "New Uncertainty Tolerance Questionnaire" using the Mann-Whitney U-criterion and the Kraskell-Wallis criterion, statistically significant differences in the "Tolerance for uncertainty" factor were found

between groups with medium and high self-efficacy ($p=0.042$) and between groups with low and high self-efficacy ($p=0.012$): interns with high self-efficacy have higher scores on the uncertainty tolerance factor (Figure 3).

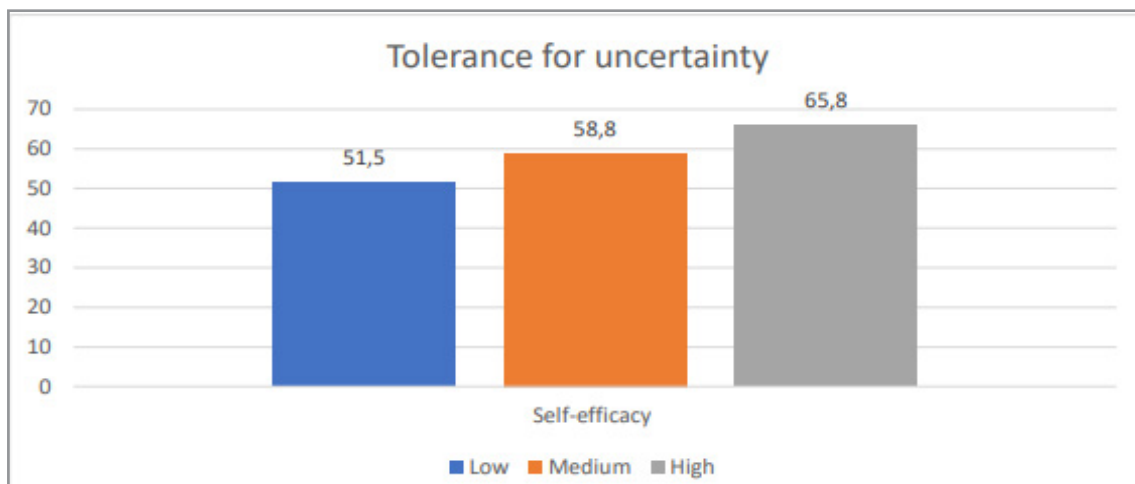


Figure 3: Expression of the factor "Tolerance to uncertainty" in interns with different degrees of self-efficacy (Mean values)

We also found statistically significant differences on the "Interpersonal intolerance to uncertainty" factor between groups with medium and high self-efficacy ($p=0.01$) and differences at the level of statistical trend between groups with low and high

self-efficacy ($p=0.072$): interns with high self-efficacy have low scores on the Interpersonal Intolerance to Uncertainty factor (Figure 4).

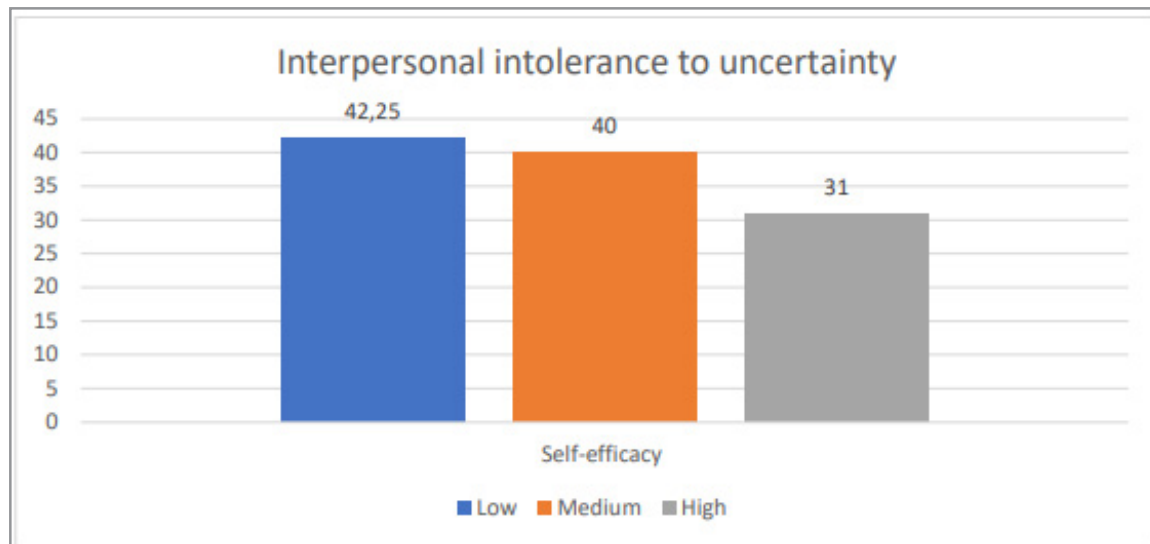


Figure 4. Expression of the factor "Interpersonal intolerance to uncertainty" in interns with different degrees of self-efficacy (Mean values)

Professional Burnout

In the course of processing the results of the "Maslach Burnout Inventory, MBI" method using the Mann-Whitney U-criterion and the Kraskell-Wallis criterion, differences at a high level of statistical significance on the "Personal Achievement Reduc-

tion" factor (professional motivation) between groups with low and high self-efficacy ($p=0.003$) and statistically significant differences between groups with low and medium ($p=0.01$) were revealed: interns with low self-efficacy have low scores on the "Personal Achievement Reduction" scale (Figure 5).

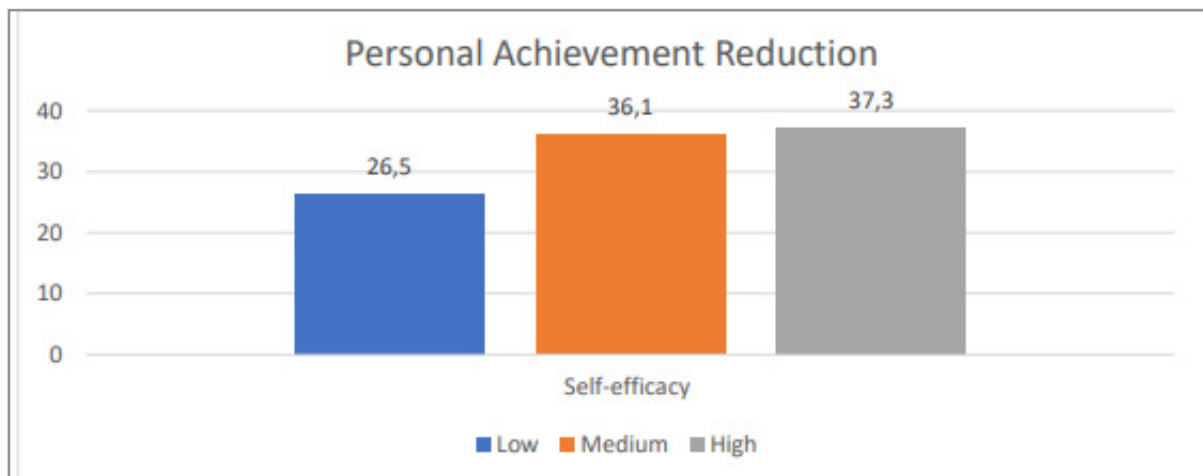


Figure 5: Expression of the factor "Reduction of personal achievements" in interns with different degrees of self-efficacy (Mean values)

Statistically significant differences on the "Depersonalization" factor were also found between groups with low and high self-efficacy ($p=0.011$): interns with low self-efficacy have high scores on the "Depersonalization" scale (Figure 6).

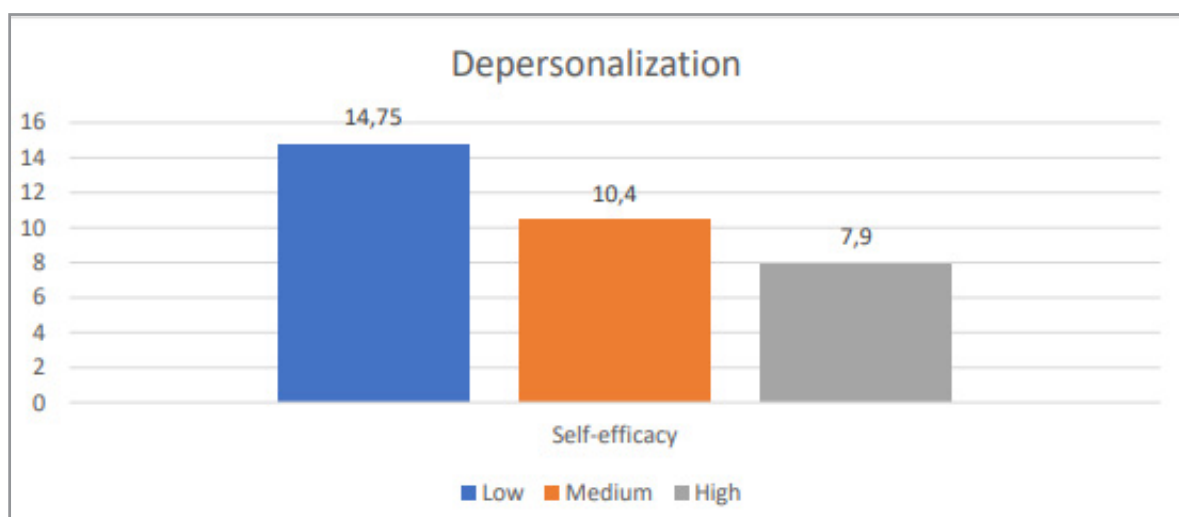


Figure 6: Expression of the factor "Depersonalization" in interns with different degrees of self-efficacy (Mean values)

Discussion

According to the results of the pilot study, it is possible to speak about a significant difference in psychological characteristics of interns with different levels of self-efficacy.

Thus, in the sphere of social contacts, interns with a high level of self-efficacy are characterized by stability and tolerance in communication. In interpersonal relationships, they are less likely to experience discomfort in case of uncertainty, and less likely to experience the desire for clarity and control in their relationships with others.

At the same time, interns with a low level of self-efficacy are characterized by frequent instability and monologue in relationships

with others, they are characterized by increased intolerance in situations of communication, highly likely to be arrogant behavior, use of professional slang, humor, and labels. They are characterized by a sense of their own incompetence, which reduces learning and work motivation. They are also characterized by tension in interpersonal interaction, both with colleagues and patients, which can lead to conflictual relationships both in the team and in the physician-patient interaction.

In the professional sphere, interns with a high level of self-efficacy have a greater willingness to be independent in decision-making and a greater desire to go beyond the usual limitations: they are more often involved in scientific developments, speak at medical conferences and strive to introduce into the field of their

professional activities new tools that correspond to modern research. Interns with low self-efficacy are characterized by a reduced sense of competence in their work and a reduced level of work motivation and enthusiasm for altruistic work.

When constructing a time perspective, interns with a high level of self-efficacy tend to believe that their future is not predetermined and it is possible to change it by their actions, and they evaluate their past experience as contributing to their development and leading to their current state. Interns with a low level of self-efficacy are less characterized by these features of time perspective perception, they tend to dwell on failures and consider past negative experiences as decisive; in their perception their own actions will not be able to change the course of fate.

Conclusions

Work not only on the formation of professional competencies, but also on professional and personal qualities of specialists should improve the quality of education of young resident specialists and medical care in general. The training program should include psychological trainings and courses on stress management, contributing to the development of skills of emotional self-regulation and forming resistance to emotional burnout.

It is important that future physicians develop not only clinical skills, but also emotional intelligence, which allows them to interact effectively with patients and colleagues. Increasing self-efficacy and tolerance for uncertainty will help future physicians better cope with the challenges of their practice.

As a result, an integrated approach to training that considers not only professional but also personal qualities can lead to better training of specialists. This, in turn, will have a positive impact

on the quality of medical care.

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